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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,442	02/19/2002	Lev Novik	MS1-702US	2988

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EXAMINER
LAO, SUE X

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _21 and 22_ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _19 February 2002_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _1/12/04, 3/4/04_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2.   Claims 1-22 are presented for examination.

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claim 1-6, 8-15, 17-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The language of independent claims 1, 8, 17 raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a useful, concrete and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Independent claims 1, 8, 17 do not appear to require any computer hardware to implement the claimed invention. These claims appear to define the metes and bounds of an invention comprised of software alone. Software alone, without a machine, is incapable of transforming any physical subject matter by chemical, electrical, or mechanical acts. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being

applied to appropriate subject matter. In re Schrader, 22 F.3d 290 at 294-95, 30 USPQ2d 1455 at 1458-59 (Fed. Cir. 1994). Transformation of data by a machine constitutes statutory subject matter if the claimed invention as a whole accomplishes a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d 1368, 1373, 47 USPQ2d 1596 at 1600-02 (Fed. Cir. 1998). MPEP 2106. State Street required transformation of data by a machine before it applied the "useful, concrete, and tangible test." However, State Street does not hold that a "useful, concrete and tangible result" alone, without a machine, is sufficient for statutory subject matter. State Street, 149 F.3d at 1373, 47 USPQ2d at 1601.

Claims 1-6, 8-15, 17-20 are rejected under 35 U.S.C. 101 because the claimed invention appears to be comprised of software alone without claiming associated computer hardware required for execution.

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 2, 4, 5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smaragdakis et al ("Mixin-Based Programming in C++").

As to claim 1, Smarragdakis teaches a method (mixin classes, mixin layers) comprising:

creating a template class (template class, mixin class) that stores at least one template parameter (parameter) (page 2, starting section 2, to page 4, 2nd para.);

specifying at least one additional object (class nesting, inner mixins) to be created when an instance of the template class is created (page 1, last para.);

initiating the creation of a new instance of the template class using the at least one template parameter (template compilation, page 2, 2nd para.); and

if an error occurs during the creation of the new instance of the template class, receiving a report identifying the error (compiler supporting template compilation, page 2, 2nd para.) It is noted that a compiler typically generates a compiler error when an error occurs during class instantiation. Templates are classes. Therefore, it would have been obvious to generate and report an error when an error occurs during the creation of the new instance of the template class (class instantiation).

As to claim 2, Smaragdakis teaches initiating the creation of a new instance of the template class includes associating the new instance of the template class with the at least one additional object in that the declaration of a nested/inner class makes such associattion.

As to claim 4, Smaragdakis teaches offering the template class to a plurality of users (multiple uses, page 10,4th para.) (widespread use, page 14, section 5, 1st para.).

As to claim 7, one or more computer-readable memories containing a compute program that is executable by a processor to perform the method recited in claim 1 would have been an obvious choice for implementing the teaching of Smaragdakis (page 14, section 5, 1st para.).

As to claim 5, Smaragdakis teaches the template class is a correlation helper template that parameterizes a particular aspect of a correlation scenario (collaboration-based design, page 3, 2nd para.).

7.   Claims 8, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freyburger (U S Pat. 6,405,368).

As to claim 8, Freyburger teaches a method comprising: creating a first template class (template 152); designating inputs associated with the first template class (template parameter, inherent to a template definition); designating outputs associated with the first template class (output to compiler process 112); creating a second template class (template 153); designating inputs associated with the second template class (template parameter, inherent to a template definition); designating outputs

(output to compiler process 113) associated with the second template class; and combining the first template class and the second template class (linker 134). See col. 1, lines 22-44; col. 2, lines 50-63.

While Freyburger does not explicitly call the combined template file a third template class, it would have been an obvious choice.

As to claim 16, one or more computer-readable memories containing a compute program that is executable by a processor to perform the method recited in claim 8 would have been an obvious choice for implementing the teaching of Freyburger.

8.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smaragdakis et al as applied to claim 1 in view of Sun Microsystems ("Inner Class Specification").

As to claim 3, Sun Microsystems teaches an instance of a template class (top level class with inner class) is capable of handling event data (add anonymous event handlers to AWT components, page 12, first 4 para.s, page 27).

Therefore, it would have been obvious to handle event data with an instance of a template class in Smaragdakis. One of ordinary skill in the art would have been motivated to combine the teachings of Smaragdakis and Sun Microsystems because this would have allowed classes to be defined closer to the objects they need to manipulate (page 3) which furthers the goal of better structuring complex/large programs.

9.   Claims 9-15, 17, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freyburger et al as applied to claim 8 in view of Smaragdakis et al.

As to claims 9, 10, 11, Smaragdakis a template class has an associated object that is created when an instance of the template class is created (declare an inner mixin class in a outer mixin class which is a template, see discussion of claim 1).

Therefore, it would have been obvious to include an associated object into the first/second/third template classes in Freyburger. One of ordinary skill in the art would have been motivated to combine the teachings of Freybuger and Smaragdakis

because this would have resulted in more flexible and efficient implementations (page 14, last para.).

As to claim 12, Freyburger teaches creating a new instance of a template class (template instantiation, col. 2, line 56). It would have been obvious to perform the same on the third template class.

As to claim 13, Freyburger teaches creating a new instance of the third template class (see discussion of claim 12); and if an error occurs during the creation of the new instance of the third template class, reporting the details of the error (col. 5, lines 18-34). Further, it is noted that a compiler typically generates a compiler error when an error occurs during class instantiation. A template is a class. Therefore, it would have been obvious to generate and report an error when it occurs during the creation of the new instance of the third template class (class instantiation).

As to claims 14, 15, Freybuger as modified by Smaragdakis teaches correlation helper template (see discussion of claim 1 with respect to Smaragdakis).

As to claim 17, Freyburger teaches a template description structure comprising: at least one template class (source/template 152, 153) that stores a plurality of template parameters (template parameters, inherent to any template definition); at least one template builder class (compiler processes 112, 113, 134); and an order in which the template builder classes are instantiated (instantiation of 152 and 153 occurs before processes 112 and 113). Using a parameter to identify this order would have been obvious.

Freyburger does not teach identifying at least one additional object to be created with each instance of the template class, which is met by Smaragdakis (see discussion of claim 9 for detail).

As to claims 19, 20, Freyburger teaches each instance of the template builder class has an associated name (152, 153, 112, 113) and each template builder instance is associated with an instance of a template class (compiler process 112, 113 correspond to templates 152, 153, respectively).

10.   Claims 21-22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art on record does not teach the template description structure comprising: at least one template class that parameterizes a particular aspect of a correlation scenario; at least one template builder class, wherein each instance of the template builder class identifies an object that needs to be created when creating an instance of the template class; and at least one order parameter that identifies the order in which the template builder classes are instantiated, in the specific combination as recited in claim 21.

11.   Claims 6, 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In particular, Hedin teaches specifying an additional object (singular object, page 4, right col.) to be created when a class to be created.

13.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (571) 272-3764. A voice mail service is also available at this number. The examiner's supervisor, SPE Meng-Ai An, can be reached on (571) 272 3756. The examiner can normally be reached on Monday - Friday, from 9AM to 5PM. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 28, 2005

SUE LAO
PRIMARY EXAMINER